Systematic Notes on Crabronids with Description of a New Species

(Hymenoptera : Sphecidae)

H. K. COURT AND R. M. BOHART[1]
University of California, Davis

In his study of the genus *Moniaecera* Ashmead, Pate (1948) noted that it contained two well defined elements which he considered of subgeneric rank. Typical *Moniaecera* contains five described species, all from North America. The other entity, *Huavea* Pate, 1948, was based on a single male from Mexico. In the course of a revisional study of the Sphecidae we have examined considerable material of both *Moniaecera* and *Huavea* and have become convinced that the characters separating the two elements are of generic value.

These wasps are in the *Euplilus* group, all of which have maxillary palpi with five articles and labial palpi with three. *Huavea* is closely related to *Moniaecera*, and shares with it the following characteristics: scape ecarinate; mandible bidentate apically and with an inner basal, backward projecting spine; eyes converging strongly below; no carina limiting scapal basin; temples simple, rounded; occipital carina complete and separated from hypostomal carina; humeral angle well developed; omaulus present and distinct; recurrent vein joining submarginal cell at or before middle; hindtibia not strongly clavate; abdomen coarctate, pedunculate, and clavate.

Features of *Huavea* which distinguish it from *Moniaecera* are: interantennal tubercle present but not nasiform; postspiracular carina present as an upward extension of omaulus almost to tegula (compare Figs. 6 and 8); acetabular carina present, not joining omaulus but continued by the subomaulus upward and forward; precoxal area of midleg not simple or toothed but with a verticaulus extending to scrobe (Fig. 6); hypersternaulus well developed (Fig. 6); female pygidium elongate, punctured basally, narrowed and smooth apically (compare Figs. 2 to 4).

HUAVEA CHONTALE Pate

Moniaecera (*Huavea*) *chontale* Pate, 1948. Trans. Amer. Entomol. Soc. 74: 59. Holotype male, Salina Cruz, Oaxaca, Mexico (U. S. Natl. Mus.).

The female of this species has not been described. It resembles the male in most respects except as follows: supraorbital fovea tear-drop

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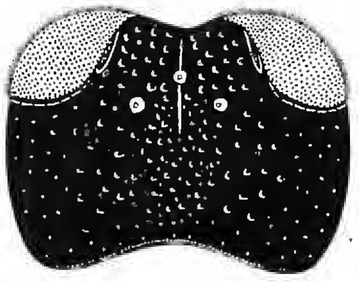
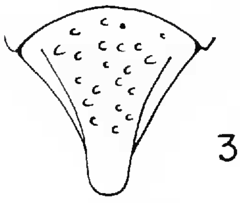


1. Huavea pima



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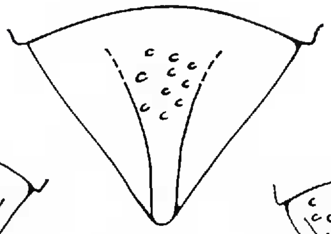

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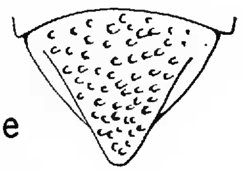
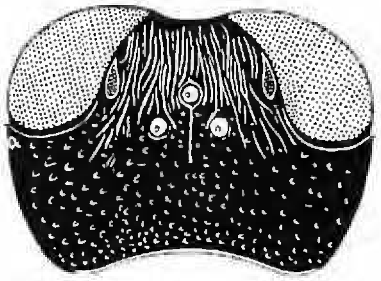


4. M. abdominalis



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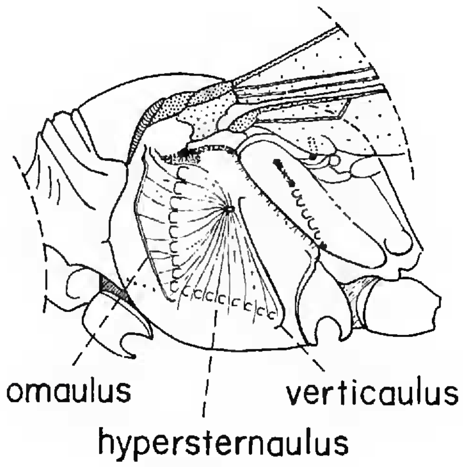

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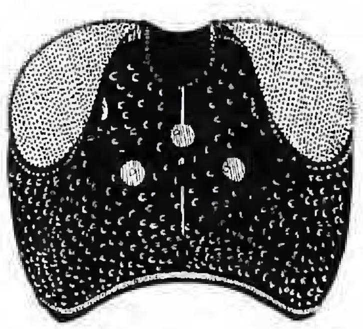
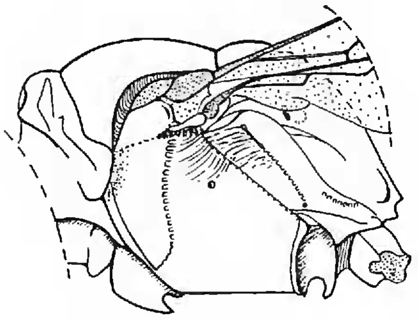


7. Moniaecera abdominalis



8. M. abdominalis

Figs. 1–2, *Huavea pima* Court and R. Bohart, female, top view of head and pygidium. 3. *Huavea chontale* (Pate), female pygidium. 4. *Moniaecera abdominalis* (Fox), female pygidium. 5–6. *H. chontale*, female, top view of head and side view of thorax. 7–8. *Moniaecera abdominalis*, female, top view of head and side view of thorax.

shaped (Fig. 5); ocellar triangle broader than high (Fig. 5); humeral angle less spinose, mesopleural venter sparsely haired; foretarsomere I with three or four short bristles before apex; midtibia spinose (hindtibia spinose in both sexes); pygidium narrow, sides slightly incurved but diverging at approximately 23 degrees, distal one-half shallowly concave (Fig. 3).

We have seen 9 males and 6 females from the following Mexican states, all south of the Tropic of Cancer: Nayarit, Morelos, Guerrero, Jalisco, Oaxaca, Puebla, and Chiapas.

Huavea pima Court and R. Bohart, new species

Male.—Length 6.5 mm, forewing 3.5 mm. Black, propodeum tinted greenish; the following whitish yellow: scape mostly, line beneath on first five flagellomeres, mandible except for red apex, axillary sclerites, apex of forefemur, foretibia in front, basal one-third and apex of midtibia, basal one-fourth of hindtibia, tarsi darkening apically; the following dark brown: posterior spot on scape, pedicel and flagellum, legs except as noted above, first segment and fifth and sixth tergites of gaster; remainder of gaster reddish-brown; wings iridescent, bases of longitudinal veins of forewing and veins of hindwing pale ivory, tegula and remainder of veins of forewing pale brown.

Head with pubescence silvery, dense on clypeus and inner orbit, sparse on vertex, moderate on temples, dense, short and erect on eyes (as in Fig. 1); mandible evenly bidentate; clypeus short, flat; scape cylindrical, ecarinate; flagellum with short fringe of hair beneath, otherwise simple, flagellomere I one-fourth as long as scape, 1.4 times flagellomere II; antennal sockets contiguous but separated from inner eye margin by one-third their diameter; front polished, impunctate, with narrow process extending from just above antennal sockets downward between them; upper front and vertex coarsely punctate and shagreened, with narrow furrow extending forward from anterior ocellus; supraorbital foveae indistinct, close to eye margins, linear; ocellar triangle broader than high, bisected by shallow furrow extending backward from anterior ocellus, distance between hindocelli equal to ocellocular distance (as in Fig. 1); posterior eye margin bordered by smooth, slightly concave area; occipital carina complete, well developed, not flanged or dentate, separated from hypostomal carina.

Thorax with pronotal lobe and mesopleural venter densely covered with short, fine, whitish hair; remainder with moderate, silvery pubescence; pronotal collar moderately punctate, shagreened, rounded anteriorly, notched medially, angulate laterally, weakly, transversely carinate posteriorly; scutum, scutellum and metanotum simple, moderately punctate, intervening areas shagreened, mesopleuron micropunctate, shagreened; episternal suture strongly foveolate; hypersternaulus distinct but foveae becoming smaller posteriorly; metapleuron shining, impunctate; propodeum with sculpture moderate, foveolate anteriorly, enclosures rugose, set off posteriorly by foveolate furrow, posterior face rugose, lateral carinae distinct, lateral faces shining, striate. Legs simple, forecoxa edentate; midtibia with one apical spur; hindtibia with several weak spines. Forewing with recurrent vein reaching submarginal cell slightly before middle, hindwing with jugal lobe slightly longer than submedian cell.

Abdomen with last tergite simple, evenly convex.

Female.—Length 7 mm, forewing 4 mm; markings and structure about as in male except: scape brown, whitish yellow at base and apex, flagellum entirely brown, mandible entirely reddish brown, apex of midtibia dark; mandible with lower tooth shorter than upper; flagellum without fringe of hair beneath; supraorbital foveae distinct (Fig. 1); mesopleural venter sparsely haired; foretarsomere I with two short bristles before apex; mid- and hindtibiae spinose; pygidium narrow apically but sides widening more rapidly than in *chontale*, distal one-half nearly flat (Fig. 2).

Holotype male (U. C. Davis) PATAGONIA, SANTA CRUZ COUNTY, ARIZONA, 30 August 1954 (R. M. Bohart). Paratype female (California Academy of Sciences), Continental, Pima Co., Arizona, 12 August 1957 (G. D. Butler).

This species is distinguished from *chontale* most readily by the conspicuously hairy eyes, dull and fine sculpture, non-ridged upper frons (compare Figs. 1 and 5), narrower supraorbital foveae in the female (Figs. 1 and 5), densely hairy pronotal lobes, and simple male tergite VII (medially concave in *chontale*).

LITERATURE CITED

PATE, V. S. L. 1948. A review of the genus *Moniaecera*. Trans. Amer. Entomol. Soc., 74: 41–60.

A New Brumal *Empis* from the San Francisco Bay Area, California

(Diptera : Empididae)

PAUL H. ARNAUD, JR. AND JAMES D. BIRCHIM[1]
California Academy of Sciences, San Francisco, California

The earliest brumal (winter-occuring) *Empis* species, which is currently known from six localities of the San Francisco Bay area, has not been described. It is not a rare species as our sample of over three hundred and fifty specimens indicates. It has apparently seldom been collected by others because of the general lack of collecting during our winter months—its time of flight. It was first discovered at Jasper Ridge in southern San Mateo County by insect net sweeping in 1948. Subsequently it has been collected at Redwood City (insect net collecting in 1951) and in Marin County at Novato (insect net collecting in 1952; flight trap collections in 1963), Alpine Dam (insect net collecting in 1957), Inverness (flight trap collections in 1964) and Mill Valley (insect net collecting in 1966).

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[1] The prints of photographs used in figures 1, 2, and 3 were prepared by Mr. Maurice Giles of the California Academy of Sciences, from negatives taken by Arnaud. We would also like to thank Mr. and Mrs. Frank Myer for permission to operate insect flight traps on their property at Inverness, California.

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